

## ABSTRACT:

The invention relates to a method and an X-ray apparatus for imaging anatomical parts of the human anatomy, in particular for imaging the human spine. In order to improve the quality and the diagnostic value of projection images of the anatomical parts (20) it is proposed according to the invention to acquire at least one initial projection image of at least the region of interest of the anatomy (20), to determine the positions and/or orientations of the anatomical parts in the region of interest from the at least one initial projection image and/or from other sources of information, to determine the optimum imaging parameters for the anatomical parts from their positions and/or orientations, and to acquire images of the anatomical parts while using the optimum imaging parameters. The complexity of the scene and the mixture of over-projecting structures limiting the diagnostic reliability of the projection images are thus taken into account. In a preferred embodiment a scanning trajectory (21) is determined while using the information of the at least one initial projection image along which the source-detector unit (1, 2) is moved while acquiring the projection images of the spine (20).

(Fig. 3)